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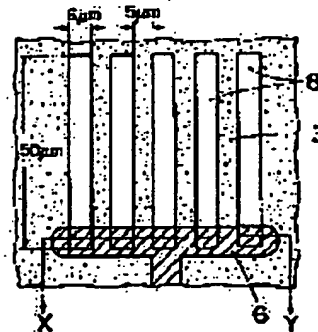
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(54) LIGHT-EMITTING DIODE ARRAY AND MANUFACTURE THEREOF

(57)Abstract:

PURPOSE: To provide a light-emitting diode array which can reduce lattice distortion and thermal stress of a III-V group chemical compound semiconductor formed on a silicon semiconductor substrate, and can extend remarkably the light emitting duration of life, and to provide the manufacture of the light-emitting diode array.

CONSTITUTION: III-V group chemical compound semiconductors composed of GaAsP are laminated by optional epitaxial growth method on a silicon semiconductor substrate of a region surrounded by an insulating film 3 bonded on the silicon semiconductor substrate. As a result, PN junction is formed, and a conductive film 6 serving as an electrode is bonded on the main surface of the III-V group chemical compound semiconductors. The light-emitting area of a single unit light-emitting diode 8 with rectangular shape consisting of PN junction is set to less than $400\mu\text{m}^2$. One side in longer direction of a light-emitting section with rectangular shape is set to less than $50\mu\text{m}$ thereby light-emitting life can be extended remarkably. At the same time, it is possible to form a relatively large light-emitting diode by integrating single unit light-emitting diode.



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